

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application.

Claim 1 (Currently Amended): A high-thrust linear motor comprising:

a magnetic member having a plurality of slots formed in series in an axial direction thereof, said slots extending from both sides of said magnetic member in opposite directions intersecting said axial direction in corresponding relation to each other;

coils each wound in a pair of said slots on both sides of said magnetic member;

field magnets extending in said axial direction at both sides of said magnetic member so as to face an effective conductor portion of each of said coils, said field magnets each having a plurality of pairs of magnetic poles magnetized in said axial direction;

a pair of flat plate covers for covering upper and lower surfaces of said magnetic member and said coils approximately entirely, exclusive of sides of said magnetic member and said coils which face said field magnets; and

connecting means for integrally connecting together said pair of flat plate covers ~~cover~~ elements,

wherein said coils have a plurality of phases and are wound in respective pairs of said slots in said magnetic member in such a manner that each pair of adjacent phases are different in electrical angle from each other.

Claim 2 (Canceled).

Claim 3 (Canceled).

Claim 4 (Canceled).

Claim 5 (Previously Amended): A high-thrust linear motor according to claim 1, wherein said connecting means is formed from a material having high thermal conductivity and disposed in contact with or close proximity to said magnetic member.

Claim 6 (Previously Amended): A high-thrust linear motor according to claim 1 or 5, further comprising:

a non-magnetic material filled in a space between said magnetic member and said coils on one hand and said cover member on the other.

Claim 7 (Currently Amended): A method of winding coils of a high-thrust linear motor,
said high-thrust linear motor comprising:

a magnetic member having a plurality of slots formed in series in an axial direction thereof,
said slots extending from both sides of said magnetic member in opposite directions intersecting
said axial direction in corresponding relation to each other;

coils wound each in a pair of said slots on both sides of said magnetic member; and
field magnets extending in said axial direction at both sides of said magnetic member so

as to face an effective conductor portion of each of said coils, said field magnets each having a plurality of pairs of magnetic poles magnetized in said axial direction,

said method comprising the step of winding coils in respective pairs of said slots on both of said magnetic members while rotating said magnetic member.

~~producing a high-thrust linear motor, said method comprising the steps of:~~

~~preparing a magnetic member having a plurality of slots formed in series in an axial direction thereof, said slots extending from both sides of said magnetic member in opposite directions intersecting said axial direction in corresponding relation to each other; and~~

~~winding coils in respective pairs of said slots on both sides of said magnetic member while rotating said magnetic member;~~

~~said coils opposing field magnets extending in said axial direction at both sides of said magnetic member so as to face an effective conductor portion of each of said coils, said field magnets each having a plurality of pairs of magnetic poles magnetized in said axial direction.~~